

A NEW DAWN

MACRO for
CONSTRUCTION &
ANIMATION



A MACRO-PROGRAM for the making of
HOME COMPUTER MOVIES

from

pinehurst data studios

for use with 48K SPECTRUM computer

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- an innovative personal computer idea from -

* Pinchurst Data Studios *

Dear Customer,

Thank you for showing an interest in this new and exciting hobby for the home-computer enthusiast.

The MCA program is the result of many hundreds of hours of research and experimentation, and every effort has been made to tailor the program around every need of the 'home movie-maker'. The writing of the program was extremely challenging, and as well as a fair share of headaches, brought much pleasure.

I sincerely hope your new acquisition will bring you, too, much pleasure, and I wish you many happy hours of creative animated story-making.

BACKUP COPY Daily.
ON TAPE
LOADING THE TAPE
REVERSE

The program on the tape cassette will just about fill the memory of the 48K Spectrum computer. In order to ensure trouble-free loading please start off with a completely clean computer memory. To be sure, please disconnect the Spectrum from its power for a couple of seconds and then reconnect. The makers' copyright line should then appear on the screen. Make sure that computer is correctly connected to the tape recorder, and place MCA cassette in recorder, LABEL SIDE UP. Press computer key J for LOAD and then hold down SYMBOL SHIFT (next to M) and press P, TWICE so that you have LOAD " " on the screen. Press ENTER and start the tape recorder on PLAY. The loading will continue throughout two processes, one of about 3 minutes and the second about half a minute or so. As soon as you hear sounds from the computer and things begin happening on the screen ... STOP THE TAPE.

You may then sit back and watch the Pinchurst demonstration which should give you an idea of the program's capabilities. You may find loading best at half volume or slightly lower.

I'VE SEEN THE DEMONSTRATION . . . WHAT NOW?

After the demonstration, you have the full power of Macro Construction and Animation in your hands!

THIS IS THE POINT AT WHICH YOU MUST READ AND UNDERSTAND WHAT FOLLOWS IN THIS BOOKLET, because MCA is very powerful, and you will no doubt want to be able to get the very best from it.

IMPORTANT - no caps please -

The MCA program is written assuming that the computer stays in lower case letters mode. That is one reason why you are asked to start with a clean computer memory, which includes this state. DO NOT press CAPS SHIFT except where this booklet tells you to, and NEVER press CAPS SHIFT and CAPS LOCK during MCA.

Please note that the information in this booklet applies only to the predicted behaviour of the 48K Spectrum computer when loaded with MCA program. It in no way is intended to depict the functioning of the computer under other conditions. This applies in particular to such functions as DRAW, in which the tedium of entering parameters defining the position of the drawn line on the screen is made unnecessary by the automatic positioning which this program provides. Some other similar instances are BORDER and CLS, which are made easy for the story-writer to perform.

BUT JUST FOR STARTERS, without reading further, and while the cursor is a flashing '?' in the top left-hand corner of the screen, press the computer key 'C', and, you will be asked to see list. Next press M then R (for man walking to the right) and press 'ENTER'. To the question COLOUR? press a colour key which will contrast with the screen colour, say zero (0) for black. When asked SPEED 1 to 5, press '5'. The cursor will now turn to a letter M printed over the head and shoulders of a figure facing right. Move this across the screen by holding down the arrow key '8' for say half a screen width. Now simply press '0' (zero) to end the movement cycle, and press 'P' and watch! Your figure will come running in from the left, where it was originally created, and stop just where you made it stop. You can repeat the performance by pressing R for replay, and then pressing ENTER. Or you can destroy what you have done and start again by pressing just ENTER if you prefer. Next, try the same for UFO (press C, then U, then ENTER), and give the craft a red top and a green bottom. Now read on . . .

ABOUT SEQUENCES, CONSTRUCTIONAL AIDS AND THE CAST

A SEQUENCE is something which you initiate as soon as you select an event which you want to take place. It can take two forms. The Constructional Aid sequence is selected simply by pressing the lettered key appropriate, in terms of this program, to the action required. Examples are press 'O' for circle construction, 'R' for creating a rectangle, etc. Other keys have to be pressed in succession during the sequence construction, as prompted by the computer at each stage. Constructional aids are described in detail later.

The other type of sequence is the calling of a member of cast. This member may be animate or inanimate, e.g. a man or a girl, or a helicopter, UFO etc, etc. To call cast you first have to press key 'C' which tells the computer that you will next be selecting a cast member, which is entered as a simple abbreviation of the cast member selected, e.g. 'gr' for girl walking to right.

In both these types of sequence selection and description, you are not allowed to forget any information, as full prompting is given at each stage.

There are two types of cast selection sequence, a moving one, in which you call up a cast member, say man walking to right, mr , and, having described his colour and walking (or running) speed, move him across the screen. You then have to tell the computer when you have moved him enough, by ending the sequence with the zero key, 0 . This key has been chosen for the termination of ALL sequences, incidentally, even tune writing, to make it easy. But there is also a non-moving sequence, e.g. the selection of a stationary figure. In this case, no ending of the sequence is required.

Then there are constructional aids which are not sequences in themselves, but are grafted on to the sequence following their selection. These are CLS & screen colour, BORDER, INSERT A PAUSE. They are constructional aids as much as the others, but after selection they MUST be followed by a sequence of one or other type or they will be lost on playback. In other words, you cannot end a story on a border colour change on its own, but if you want to do just this, you only have to create a dummy sequence after it, like create a single-square rectangle of same colour as background.

THE CURSOR

The Cursor is normally a flashing symbol '?'. In the beginning it is positioned in the extreme top left-hand corner of the useable screen area. It may be moved by the following methods:-

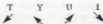
1. By pressing any of the arrowed keys, '5', '6', '7' & '8', when it will move one step in the direction of the arrow, or repeated steps if a key is held depressed.
2. By holding down the SYMBOL SHIFT key (next to 'M'), and simultaneously pressing one of the arrowed keys. This makes the cursor shoot across the screen in a single action to the extreme edge of screen, and is very useful in quick repositioning.
3. By holding down SYMBOL SHIFT and pressing key 'C' which makes the cursor reposition to centre of screen.
4. By pressing any of the keys 'T', 'Y', 'U' & 'I' which gives diagonal movement in steps, repeated if key is held down. T moves cursor down and to left, Y moves it up and to left, U moves it up and to right and I moves it down and to right.

Before attempting any animation it would be wise to familiarise yourself with all these cursor movements, so that you can benefit from the short-cuts they offer. Move the cursor around the screen until you are quite used to the idea, but always remember that when pressing 'C' to centre cursor on screen you **MUST** hold SYMBOL SHIFT down while you do it, or you will be asked what member of cast you would like!

The cursor symbol changes from '?' to 'D' when the 'drawing a line' mode is selected, and to '*' when creating rectangles or roof-slopes. When making a member of cast move it changes to 'M' (for movement) and when writing captions it changes to '"' to denote quotation. These functions are all explained in detail individually in this booklet, on separate pages for easy reference.

The cursor, of course, is not visible in any film you create, but only used during its actual construction, to denote where things are at any time, and to show what mode has been selected.

DIAGONAL MOVEMENTS



CONSTRUCTIONAL AIDS

The constructional aids are as follows:-

RECTANGLE Create a rectangle of any colour, any dimensions, including the whole screen, such that it may 'hide' or not hide any members of cast within its area. In addition to the colours selected by keys 0 to 7, you can select the BRIGHT modes of colours 3, 4, 5, 6 and 7, simply by pressing SYMBOL SHIFT whilst selecting colour. See RECTANGLE page for full details.

ROOF SLOPES Produce a stepped slanting hypotenuse on an isosceles triangle, in any of the colours mentioned in Rectangle above, and also may hide or not hide any cast in its area. Roof slopes may be created sloping down to left or to right. See ROOF-SLOPE page for details.

DRAW Draws a line of any colour, and length between the top left of any one cursor position to the same of any other cursor position. May be coloured same as background, when it will be invisible UNTIL a rectangle or roof-slope is created over it in non-hiding mode of a different colour, when it will appear in the colour of original background. Useful for drawing fences, window frame divisions and for laser-zapping, when a line is drawn then wiped out! See DRAW.

PAUSE May be selected between any two sequences or constructional aids, and may be chosen as any number of seconds from 1 to 9. Pause is essential in the proper ordering of sequences in any story.

BORDER Colour of border may be changed between any two sequences or constructional aids. See CLS and BORDER page.

CLS or CLEAR SCREEN AND GIVE IT A SELECTED COLOUR

This can be done at any time between any two sequences or constructional aids and will wipe out ALL material on screen and make screen the colour chosen. Useful when changing scenes in a story.

CIRCLE You can create circles, either hollow or filled-in, in any colour, for sun, moon, and modify their colours, hide and make them reappear. Very useful, too, for creating balloons in which to write the speech of a member of cast, or even what it is thinking! (...thinks...).

DELETE Any sequence may be deleted by pressing D after sequence completion. So can the sequence before by pressing it again! But see appropriate sections for full details on the above facilities.

RECTANGLE

A rectangle may be created in any one of 13 colours, and it can range in size from a single character-square (size of a single letter-space) right up to the size of the full screen.

Set the cursor (when it is flashing ? symbol) to the position you want to be the top left-hand corner of the rectangle, and simply press R. Immediately, you will be asked what colour of rectangle you require. In reply to this you may press any of the colour keys, 0 to 7, or if you want BRIGHT versions of colours 3 to 7, then you simply hold down the SYMBOL SHIFT key (next to M) and at the same time press the key corresponding with the colour you want. This BRIGHT function will only work in the program on colour keys 3 to 7. The cursor will now have changed from its familiar flashing ? form. Now you may move the cursor to any position to the right of, and/or below, the original cursor position, or simply leave the cursor where it is if you want only a single character-space rectangle. When you move the cursor, you will notice the original position of cursor is marked by a stationary '+' symbol. This allows you to remember where you started, whilst the cursor now becomes a flashing '+' wherever you move it. You can draw single-character space height rectangles by moving the cursor horizontally to the right, or single-character space width vertical rectangles by moving cursor vertically downwards. If you want to produce a true square, then use key 'I' to move the cursor diagonally downwards to the right till you reach the position required for the bottom right-hand corner. Whatever form you chose, when you are satisfied with the finishing position, press zero, 0 key. The computer will then ask you if you wish to "HIDE CAST IN AREA? (y/n)?" You may now press Y for yes or N for no depending on whether you want any item of cast inside rectangle area to be hidden, or to remain in its original colour or colours. The program will report an error if the finish position of a rectangle is either above the start position, or to the left of the start position - or both. It's best to keep to the simple rules!

You can create blue sky by starting rectangle construction with cursor in top left-hand corner of screen, centering it using SYMBOL SHIFT and key C, then move it to right extreme using SYMBOL SHIFT and key S, then pressing zero, 0 - then Y or N depending on whether there are any cast members in the area and if you wish to hide them.

Look carefully at the keys for numbers 1 and 2, and notice the Graphics symbols on these two keys. They are mirror-images of one another, and show a filled-in square with a small piece out of the top corner, creating a small step. The symbol on key 1 has a piece out on the right, giving the impression of a stepped slope to the right and the symbol on key 2 has the opposite, giving the impression of a stepped slope to the left. This is why these two keys have been chosen for the left and right sloping roof slopes.

Using roof-slopes is similar to creating rectangles, in terms of colour, but differs mainly in that you MUST choose a finishing point DIRECTLY BELOW the starting point, and this MUST represent a vertical line directly above the BOTTOM OF THE SLOPE. This is best understood by referring to the rectangle and roof-slope diagrams, and then trying a few experimental ones for yourself.

To select a roof-slope sloping down to the left, press the key 2 when the cursor is in ? mode, and positioned at the right height for the roof-slope triangle, but directly OVER the position where the slope must end. Then select colour, either a key number zero to 7, or for BRIGHT, SYMBOL SHIFTed keys 3 to 7. Now move the cursor (which will have changed to *, and will leave a * at the original cursor position) move the cursor vertically downwards only, to position for bottom of slope (see diagram). Now press zero 0, and, as with rectangle construction, you will be asked whether you want to hide or not any cast in the area. Press Y or N, and the roof-slope will appear.

You can add perspective to (say) a left roof-slope by first creating a triangle by left roof-slope, (key 2) in perhaps green, then moving the cursor one square to the right and, using the same positions, but one square to the right, create another left roof-slope almost over the top of the first, but in BRIGHT green, when the first slope's edge will appear to be at an angle to the second (main) triangle.

To create right-sloping roof slopes, simply follow the same routine, but select key 1 to call-up the slope. Remember, the cursor must still define the height of the triangle, as measured over the BOTTOM of the slope. Roof slopes are also useful as steps up to a building.

RECTANGLES & ROOF-SLOPES

How to Position the Cursor

Position of Cursor when you press 'R' for RECTANGLE



Position of Cursor when you terminate sequence by pressing 'Ø'

Position of Cursor when you press 'R' for RECTANGLE



Position of Cursor when you terminate sequence by pressing 'Ø'

Position of Cursor when you press 'R' for RECTANGLE



Position of Cursor when you terminate sequence by pressing 'Ø'

Position of Cursor when you press '2' for left ROOF-SLOPE



Position of Cursor when you terminate sequence by pressing 'Ø'

Position of Cursor when you press '1' for right ROOF-SLOPE



Position of Cursor when you terminate sequence by pressing 'Ø'

Please note that only the outlines of the shapes called-up are shown here, for purposes of illustration. But when you create a RECTANGLE or ROOF-SLOPE in the program, the whole area assumes the colour which you have chosen for it.

Rectangles are used to create houses, windows, doors open and shut, sky, distant sky in BRIGHT colour, grass, distant grass in BRIGHT colour and many other situations, including 'hiding a member of cast for future 'materialisation' if required! For this you create a rectangle the same colour as the background, and press 'Y' when asked if you want to hide the cast in its area.

CLS (or Clear Screen of all material and give screen selected colour)

This may be done anytime between two sequences. It cannot be done if no sequence follows it, i.e. at the end of a series of sequences. This is because it actually forms the initial part of the sequence following it. Nor can it be done in the middle of a single sequence, e.g. in the middle of moving a character across the screen, in the middle of creating a rectangle, etc. Be careful when using CLS because it will literally remove all material from the screen at the time it comes into action. To use CLS simply press the CLS key, 'V' and immediately the computer will ask you what colour you would like the screen to be after the CLS action. You tell it this with a single colour-key stroke (keys 0 to 7) and it immediately responds. Note that CLS does not merely 'hide' any members of cast, but permanently erases them, as well as any rectangles, roof-slopes, drawings ...the lot!

BORDER

BORDER works as normal use on the computer, except that when you press BORDER (key 'B') the computer immediately asks you what colour border you would like. You then touch a colour key as for CLS above, and the border colour immediately obeys. Like CLS the Border command MUST be before a sequence, or it will be lost on playback. If you select BORDER twice in succession before adding a sequence after it, only the second or subsequent choice will be accepted. So you can change your mind if you decide in time! All Border commands will work during the construction period, but only the last one which precedes the next sequence will appear on the played-back story.

DRAW

This is a very simple sequence of the constructional aid type. Unlike rectangle creation, it has no rules as to where it begins or ends. You can draw from the top left-hand corner of the cursor at one point to the same at any other point on the screen, in any of the colours 0 to 7 (BRIGHT cannot be used on Draw). Try drawing a few lines by pressing DRAW (key 'W'), moving cursor, then pressing '0' to complete sequence. All cursor movements can be used in DRAW.

CIRCLE (hollow and filled-in)

This is a very useful constructional aid, allowing sun, moon, round objects in the sky or elsewhere to grow or shrink, and even neat circles around the written remarks made by members of 'cast'. It is selected by simply pressing (obviously enough) the key lettered O. The circle key H was deliberately not used, because of the temptation to use double-shifted H as is normal with this computer, as denoted by the red lettering under the key.

So when you require a circle or disc centered on the cursor '?' you simply press key letter 'O', and you will be asked colour of circle. Any colour 0 to 7 can be selected. Next, you will be asked what diameter you require, and be told what is the maximum you can have with the cursor in its present position, without exceeding the screen area. You can type in numbers of more than one digit, including decimals, using SYMBOL SHIFTed M for the decimal point. Minimum satisfactory diameter is .5 for non-filled in circles, but there are certain diameters which may make imperfect discs when filled in. Units of diameter are in character squares, and you should try to get used to entering the DIAMETER, not radius. In the long run this is more convenient in picture creation. After entering the diameter, you have to press ENTER. PRINTING 'OVER" This facility has been provided to allow a progressive vanishing of a disc from inside or outside, or of a hollow circle. To print circle OVER you select circle by holding CAPS SHIFT down while you press letter O. If you are likely to want to over-print a circle or disc to make it vanish progressively, try to remember to print both the original and the wiping-out circles in over mode, i. e. select both by CAPS SHIFT letter 'O'.

INSTANT APPEARANCE OF SUN, MOON ETC. Do this by choosing a colour background the same as the required colour of object, and create a rectangle in the area in this colour. Then print a disc of the same colour where required, and finally create a rectangle over the first (or part of the first for sun on horizon) this time of another colour. Finish rectangle by not hiding cast. For most accurate outline in filled-in discs and best texture, it is best to avoid the over mode, particularly with small diameters.

The selection or calling of members of the cast consists of pressing 'C' for call or cast. When this is done the computer will refer you to the cast list. In this list you will notice that all selections consist of one or more letters, which are always an abbreviation of the cast members they represent; this makes things easy to remember. You simply type in the abbreviation and then press ENTER key.

The computer will now ask for a colour, or for the larger cast members, colour of top. You simply press the appropriate colour-key. After this, you will normally be asked what speed you want the object to move at when played back, and you press a key numbered 1 to 5, 5 being fastest. On some selections, other questions will be asked, which are answered, again by a single keystroke (no ENTER).

A bleep will be heard and the cursor will become a flashing M, superimposed on the head of the figure, if a figure has been selected. You move the cursor (and the cast member) in the appropriate direction by the arrowed keys 5 to 8, or, if diagonal movement is required, by keys T, Y, U or I (see CURSOR page). In the Movement mode, you CANNOT use the quick-positioning dodge of using SYMBOL SHIFT as you can when the cursor is in '?' mode, but you can use repeat by holding an arrowed or diagonal movement key down. When in the movement mode a bleep will be heard each time a movement key is pressed, or repeats if held pressed. When the cast member has reached its required destination, you can end the sequence in one of two ways. Press zero, '0' and the object will cease to move and cursor will revert to a flashing '?', leaving the cast member printed on the screen. Alternatively, you can end the sequence by pressing 'V' (for VANISH), when the cast member will be instantly erased at the last step of its movement. This is particularly useful when you want a figure to walk behind a house ... make it vanish when it reaches the house edge, insert a pause of suitable length, then recall the figure just beyond the other house-wall edge. It is also useful to dematerialise a UFO or other craft at the edge of the screen.

Each time a cast member is selected, the sequence number in the bottom left-hand corner of the screen increases by one count. It decreases when DELETE is used.

SELECTING A TUNE - FROM MEMORY

Selection of a tune (already written and in the memory under a number 1 to 9) is the same as selecting a member of cast. You press C for call cast, then PT and ENTER. You will then be asked to press number of tune you want played at this part of the story. You press the number key, and you will be asked if you want it played now or not (y/n). If yes, it will be played, provided that there is a tune in that number slot. Whether you want it played now or not, that tune number (even if empty) will be allocated to the current sequence number in the story, for playing it in playback. It is wise to listen to the tune when selecting it to make sure it's the right one, and not empty. If empty or wrong one, use DELETE.

CALLING FOR 'WRITING A TUNE'

Again, this is just like calling-up a member of cast, except that no sequence reservation is made in the story program, i.e. the sequence number, bottom left of the screen, is not incremented. To call WRITE TUNE, press 'C' for call, then enter 'WT' and press ENTER. You will then be told what the first vacant tune number space is,* and asked if you are happy with this. Normally, you will be, and will answer 'Y'. But you may want to overwrite an existing tune with a new one. If you say Y you will be told the computer is in tune-writing mode, but if you say N you will be asked which tune you wish to alter/rewrite. So you enter the number you wish to alter and the computer will then play the tune as it is at present, so as to allow you to be sure of your actions. After this, it will give you the options of adding to the end of the tune (which also allows you to delete notes backwards from the end and rewrite them), to completely rewrite the tune, or decide after all not to alter it at all (STORE, S) If you opt for ADD TO, the tune will again be played before WRITING MODE occurs, to refresh your memory of the tune as it exists.

WRITE TUNE can be called at any time without interfering with the progress of the construction of a story. But PLAY TUNE adds the sequence to the list of sequences for subsequent replay, but can be deleted with DELETE the same as other sequences (see DELETE).

* First vacant number is lowest number unused. Numbers after this may be occupied - or not.

It is assumed at this stage that you have arrived at the TUNE WRITING MODE stage of the tune writing part of the program, (see CALLING FOR 'WRITING A TUNE').

Once in this mode, you are ready to compose your own tune, but you need not be nervous in case you make a mistake, as note deletion is very simple. Imagine the keys numbered 1 to 8 are the white notes on a piano or other keyboard and that '1' is middle C, and '8' is top C. So, for keys 1 to 8 we have ... C, D, E, F, G, A, B, C. Try playing the scale, but stop for a moment after playing the first note, key 1. You will now be told that you have played note No. 1, and reminded that for a single tune you are allowed up to 99 notes. This is not such a limitation, as 99 notes take quite a time to play. You will have noticed that you are also told you are in Octave No. 1, and, if you have no loud noise in the room you will have heard the note you played coming from the computer. Now continue with the scale, but when you reach key 8, hold it down for the note to repeat say four times ... ok?. Try that bit out now by pressing zero, Ø, then 'P' for PLAY, and the scale you played will be played back, rather quickly, with a long duration note on the last note. The theory of music will not be gone into here, but a lot of experiments went into the system allowing an easy way of varying note duration, and you should find the final system quite easy to get used to. If you are playing a quick tune or passage of a tune, then only allow a single beat when you press the keys. A beat plus a repeat will give a longer note, etc., up to 6, when no longer notes will be possible. Now try a few notes by pressing '9' between them, after, of course, having first got back into writing mode by pressing 'R' (RE-DO). '9' gives a pause between notes, but only a short one, but it can be repeated for longer pauses, but each one counts as a note on the note counter. Sharps and flats are explained later.

Now, in the middle of a series of notes, press 'R' and continue playing. The pitch will have risen by an octave, and the octave number will now read 2. Things will remain unchanged until you press 'L' when octave 1 will again return. Pressing 'L' again will now take you to octave Ø, which is the lowest in this program. After re-entering tune-writing mode, octave always resets to 1.

R & L stand for raise and lower octave.

You will have noticed that as you press '9' for a pause, you heard a high-pitched note. This note is only to confirm that a pause has been selected, and does NOT form part of the tune.

Not all tunes can be composed using only the white notes C to C of a keyboard. Provision has been made in this program to play the black notes as required. In the key of C, these are called sharps and flats, but a black note which is a flat to the next higher white note, is also a sharp to the white note below it. So the program simplifies the issue by allowing you to play the sharp of any note C to C (keys 1 to 8). If you want, say, D-sharp, first press 'S' for sharp, then press '2' for D. This will give a pitch one semitone (#) above D. Now press D again, and the natural D will again sound - not D-sharp. The Sharp mechanism is designed to reset IMMEDIATELY after use; so if you want to repeat a sharp note a few times, you MUST remember to press 'S' before sounding it each time. But this does not apply to sustained notes, when you hold a key down for several beats . . . in this case the sharpness is maintained for the whole duration of the note, both during composing and playback.

NOTE DELETE (for use at any time if you press the wrong note!)

At any time when you are composing, you can end the tune temporarily by pressing Ø, and play it back so far, by pressing P, (PLAY). You can then, after listening to it, add to it by pressing A (ADD-TO), when it will play again to refresh your memory. Say your tune was o.k. except for the third to last note. When in the tune-writing mode, press 'D', for DELETE, and you will hear a low note. At the same time the note number will decrease by one. This means the last note has been deleted. Press D two more times and you will have deleted the offending wrong note, and you can correct it, and finish the tune, hopefully correctly.

We have now covered all aspects of tune composition, and it only remains for you to get some practice in. Most people will find the system simple to get used to in a short time. Incidentally, you can completely destroy a tune by going into writing mode as if to compose, then pressing 'Ø' immediately. The final filing of a tune result, with or without notes in it, only occurs when you answer the question "STORE" with 'S', when a triumphant sound will be heard and the tune number will be confirmed, so that you know how to call up that tune in future.

CAPTIONS, ANNOTATIONS or QUOTATIONS - Typewriter Mode

The writing of words on the screen is done by a constructional aid type of sequence, in that it does not require you to call it up with 'C'. When you want a member of cast to "speak", you simply position the cursor (in free mode, i.e. when it is '?') to the right of the cast member, or above it, and press 'Q'. You will then be asked what colour you want the printing to appear in, and told that if you choose '9' it will contrast with the background, i.e. black if background is a light colour or white if background is dark. So you select your colour (single key-stroke, 0 to 7 or 9 contrast), and the computer bleeps and the cursor becomes flashing inverted commas, ". You can now write your caption, or at least the first line of it. In writing captions, you may, whenever you wish, use the CAPS SHIFT (left, bottom of keyboard) to give capital letters. This is a rare case in which you should use the caps shift in this program. You may also use the SYMBOL SHIFT in order to print things like ? and ! and & if you need them. When you have put all you want on the first line, complete the sequence by pressing 'Q' (as with all other sequences) and move the cursor to the next line down and to the left to begin the next line of caption. Note that the progression of the (")-mode cursor is automatic towards the right as you type the caption, and it cannot be positioned by the normal cursor direction keys in mode Q. So, if you make a mistake, simply end the sequence (press 'Q') and use DELETE SEQUENCE and re-do the wrong part of the caption. If you approach the right-hand edge of the screen too close, you will be given a warning, eventually followed by the advice to re-do the line, starting further in from edge. On this warning you may type one more letter ONLY plus the end of sequence 'Q'. If you do not use DELETE after a mistake, but simply start a new caption over the old one, BOTH will come out in sequence in the replay, the wrong one first.

INSTANT PRINTING. Normally, captions come out on replay, letter by letter, in the order they were written. If you want them to appear instantly, you can do so by typing them in the same colour as the background (as long as the background is not a BRIGHT colour), and then creating a rectangle over the whole caption, in a contrasting colour, and ending the rectangle with 'N' (for not hiding cast in area). The printing will then assume the colour in which it was printed. Note that printing spaces over print, DRAW items or cast members permanently erases them.

DELETE - a - Sequence

DELETE may be used as often as you find necessary during story-compiling, and its function is to delete the last sequence completed. The procedure is very simple; so simple in fact that a safeguard has been incorporated to prevent accidental use. Suppose for a moment that you had created a house with windows and doors, inserted a suitable pause and then called-up a standing figure in the doorway. Then you suddenly realise that you should have opened the door before showing the figure! All you have to do is to press 'D' for DELETE. The computer will then tell you you have asked to delete sequence No. (say) 10, and ask you if you are sure. If you are sure you enter 'Y' and press ENTER, when the sequence number 10 in the left-hand bottom corner of the screen will change to 9, denoting that sequence 10 has been deleted, and when played back the figure will not appear at the door. So you can now arrange for a rectangle of a different colour to the door, down one half of the door to give the appearance of the door half-opening (which is more effective than changing colour of the whole door), and then put your standing figure in the open part of the doorway. Note that, if there is an error in the sequences further back, which you want to correct, then you must either destroy all subsequent sequences, working back from the last, or re-do the whole story from scratch. You cannot delete mid-sequences. If you use DELETE for a moving sequence, e.g. a figure walking or running across the screen, be sure that you have completed the sequence first (with 'Q' or 'V'). When you have deleted, and play back, you will find the whole creation of the figure and its movement will be absent, in the final story. On the other hand, if you make a mistake in selecting DELETE, you only have to answer 'N' when asked if you are sure, and normal story composition mode is resumed as if nothing had happened.

DELETE will work with any sequence, either a cast-call sequence or constructional aid, in fact, anything which has a sequence number. Use it on Rectangle, Roof-slope, Draw, cast call sequence of stationary or moving cast members, or Play Tune call, as well as captions ('Q' for quotation - typewriter mode sequence). But remember that each line of Quotation has to be a separate sequence so you only delete one line at a time when deleting printing from a story. DELETE will erase a cast member if sequence was cast, but will leave other items at the construction or writing stage, making them absent from replay, though.

CONSTRUCTIONAL AIDS

Each of the following aids are called direct by their appropriate keys; i.e. you do NOT press 'C' as they are not members of 'cast'.

<u>Aid type</u>	<u>Press key lettered</u>	<u>Remarks</u>
RECTANGLE	R	Colours 0 to 7 plus bright version of 3-7
ROOF-SLOPE LEFT	2	colours as above
ROOF-SLOPE RIGHT	1	As above. All above may hide or not hide any cast in their area.
DRAW	W	Colours 0 to 7 only. May be wiped out by DRAWing over same.
PAUSE	M	Pause before next sequence 1 to 9 secs.
BORDER	B	Changes Border colour at start of next sequence, (0 to 7).
DELETE	D	Deletes last sequence after checking validity.
CLEAR SCREEN	V	Removes all material from screen and gives screen colour 0 to 7.
SAME	S	Calls last member of cast to be called, so saving having to call and repeat colour etc. but asks for new speed
QUOTATION (typewriter mode)	Q	For cast recall only, (none of above aids). Colours 0 to 7 plus 9-Contrast with bkgnnd.

NOTE: All above aid sequences except instantaneous ones, border, CLS etc. are completed by pressing zero (0).

CIRCLE O or CAPS SHIFTED O (see CIRCLE page).
Colours 0 to 7.

'MEMBERS OF CAST' LISTING

The following may each be called whenever the cursor is in '?' mode and automatic correction is made should cursor be placed too close to edge of screen area to accommodate complete graphic. Calling procedure is press 'C' for call, or cast, then type in exact code, which is an abbreviation of graphic representation required. Then press ENTER. The waving figure, standing figure and front-facing choice of certain other figures are not moveable, and sequence ends with their appearance on the screen. Otherwise, where movement is available, or chosen, they are moved by the arrow keys 5 to 8 and diagonally by keys T, Y, U & I (see The Cursor page). Sequence of movement is ended by pressing Ø zero leaving graphic on screen, or by V which makes it vanish at end of its travel. If deleting a sequence, complete it first with Ø. (see DELETE).

DESCRIPTION	Call Coding	DESCRIPTION	Call Coding
Man walking to right	mr	...left	ml
Girl walking to right *	gr	...left *	gl
Figure standing (choice of facing l, r or f)	st		
Figure waving	w	(speed of wave selectable, one wave per calling)	
Figure climbing facing right	cir	...left	cil
Cat walking to right *	cr	...left *	cl
Car moving to right	err	...left	erl
Bear walking to right *	br	...left *	bl
Extra-terrestrial walking to right *	etr	...left *	etil
Astronaut walking to r ^l *	ar	...left *	al
Bird flying to right *	bdr	...left *	bdil
Motorcycle to right	mer	...left	mel
Helicopter to right	her	...left	hel
UFO, saucer type	u	(symmetrical)	

* means these selections allow you to choose stationary front-facing view also, except bird which faces way you selected when settled.

§ separate colours for top and bottom halves (or rider and bike).

The calls for WRITE TUNE and PLAY TUNE (wt & pt) are dealt with in the appropriate sections.

SAVING YOUR MASTERPIECES ON TAPE

After having made a few try-out stories and played them back, you are no doubt itching by now to put a story on tape, so that you can load the computer with it at any time you like, and show your friends your brainchild!

Saving on tape is made especially easy for you. You are advised to use a C 10 cassette for saving your stories, perhaps one story on each side of the tape. Saving and subsequent loading is done in two stages each, total time about 3½ minutes. Make sure you use high-quality computer tape like we do, and you should find the process entirely reliable.

After playing a story, and being satisfied with the result, you can put the computer program into saving mode by pressing T and then ENTER. This action has been deliberately made two-stage to prevent accidental taping mode or accidental erasure of story! A bleep will sound after entering T and you will be asked to enter a title for your story. Be sure to fit this into a total of 11 key-presses maximum, and if you don't want a name, then enter a single space. Press ENTER and you will hear a bleep and be reminded to check that recorder is connected & ready to go. Make sure tape is a blank or unimportant one, and that you have run it from its end to the end of the coloured leader-tape. When all is well, press ENTER and you will be told to press ENTER once more, having started the recorder on RECORD first. Saving will now take place and last approximately 3 minutes. Stay nearby, as after this time there will be a bleep and you will be asked to press ENTER again. Do this as soon as you can when asked, and after about 30 seconds the story will be saved. Most recorders now have built-in level controls which are automatic, and volume setting is not necessary. If you use a manual record-level machine, please do an experimental run or two on short stories to find best volume for record and loading, because you only get ONE CHANCE to save your story. After saving a story on tape it is ESSENTIAL to disconnect the computer and re-load the MCA tape before attempting to make new stories. But your masterpiece, once saved, can be replayed as often as you like when it ends, by pressing ENTER as instructed.

The program has been extensively tested and error messages should not occur in the normal run of things. But when you are in typewriter mode, (QUOTATION, when cursor is "), and if you are printing a caption in caps with the CAPS SHIFT down, and if you press SPACE while CAPS SHIFT is down you will break into program. The best remedy is not to let it happen, but if it does, then press C for Continue, then ENTER. There will be a space, as you intended, in the printing on the screen, but NOT in the computer's memory. If you want a space at this point on playback, be sure to add another, so that there are two spaces together where you wanted only one. On playback you will find just one space, (test this for yourself by ending the Q sequence with zero and pressing P for playback).

Any other error message will probably be a freak condition in which the computer gets a wrong bit of information for one technical reason or another. It is unlikely that C for continue will put the program back to work, as the error will still be present, depending on what its nature is. If this fails, you may have to type G for goto, 1. This will destroy the story so far, regrettably, but the likelihood of an error message under normal working of this program is so small that it is hardly worth losing sleep over its happening!

NEVER 'RUN'

Under no circumstances must this program, MCA be RUN in the normal way. That is why you have been told, if in real trouble with an error message or whatever, to type GOTO 1.

BY-PASSING THE MCA DEMONSTRATION STORY

You may well tire of having to wait for our demonstration show to finish each time you want to make up your own story. On such occasions, the remedy is quite simple. BREAK in to the program whilst the demonstration is in progress, by holding CAPS SHIFT down and simultaneously pressing the SPACE key. Now press G (to print GOTO, and 1. When you press return, after a couple of seconds the cursor will appear in the top left-hand corner of the screen and it's all yours!

Similarly, if you want to over-write the tunes 1 and 2 you can (see WRITING A TUNE). No. 1 is God Save the Queen, and No.2 is (copyright circa 1965, B.H. Baily) called Space-Train. On the other hand, the writer would never turn down any voluntary royalties should you have a commercial when buying Tune No. 3 is quite!!!

Stories may be started with black border and black screen by using BORDER and CLS and pressing zero for each colour. Be careful not to make the first member of cast black also, though, or it will not be seen! It is quite a good idea to produce sky and (say) grass as soon as possible, and certainly before creating a house etc., or anything else in the rectangle or roof-slope category. These are all in 'paper' colour, and will wipe one another out, i.e. If you print a blue rectangle over a red one, the blue will take over where they overlap. But members of cast may be moved over any of these paper-printed areas, without disturbance. Remember too that DRAW is in ink colour, like the cast members, and will be erased by a cast member passing over it, just as cast will be wiped out by cast. This latter is fortunate, because without it you would not be able to bring a stationary figure back to life to make it walk or run about when you wanted to. DRAW is a PRINT OVER function which means that if two identical DRAWS are superimposed, the second wipes out the first one. USE PLENTY OF PAUSES in your story-creation. Normally, a 1 or 2 sec. pause should do, but where you want to add suspense pop in a 3-second pause!

The three non-sequence effects, CLS AND CHANGE SCREEN COLOUR (wiping it clear of EVERYTHING), BORDER colour change and PAUSE (so-many seconds 1 to 9) may all be done at once during playback, by doing them sequentially and following them with any sequence, construction or cast. If you want to change screen colour or part screen colour, use RECTANGLE over part or all screen, and if you want DRAW, CIRCLE or cast members to remain, then end the rectangle with N (no-to hide cast in area). The sun (circle filled in, red or yellow) can also have sunbeams coming from it using DRAW. Both sun and beams may be hidden until exposed by using same colour as background for each, then rectangle over whole or part, again without hiding cast. Try and work out how the effects in the demo were created ... they all use the techniques available to you.

You are asked to observe copyright etiquette, since the program is reasonably priced and hundreds of writing hours, full-time, should reasonably be expected to bring fair reward. Please write if you have suggestions for improvements or other comments related to this particular innovation in home computer use.